

IN THE SPECIFICATION:

Figure 1 is a diagrammatic representation of a prior art satellite; the satellite 1 has an omnidirectional antenna 3 referred to as the Earth antenna and an omnidirectional antenna 5, on the other side of the satellite, referred to as the anti-Earth antenna. ~~That~~These two antennas are connected to a coupler 7 which adds the signals from the antennas and transmits the sum of the signals to one or the other of two receivers (Rx;) 9 and 11; two receivers are provided in a hot redundancy configuration to enable the satellite to continue operating should one of the receivers cease to operate. Summing the signals from the two antennas provides coverage on the Earth and anti-Earth faces of the satellite. That type of system has the following drawbacks. In the area where the radiation patterns of the antennas overlap, the signals received by the satellite via the Earth and anti-Earth antennas are added; the resulting multipath phenomenon interferes with reception of the signal. A symmetrical problem occurs with the telemetry, i.e. for the transmission of signals from the satellite: there are then two transmitters (Tx) 10 and 12 in a cold redundancy configuration and a coupler 8; the signals supplied by the active transmitter are transmitted via the Earth and anti-Earth antennas. Although this is not shown in the figure, there can be separate transmit and receive antennas.

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